

ON THE AMERICAN SPECIES OF ALOBATES MOTS.  
(COL. TENEBRIONIDAE)

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Dissection of specimens of the genus *Alobates* Mots. (*Nyctobates* Guer.) has brought to light some interesting information concerning the separation of the species by the use of the male genital tube. *Barbata* Knoch., which at one time was regarded by some as no more than a variety of *pennsylvanica* DeG., differs radically from *pennsylvanica* in the shape and structure of the penis, and may be separated at a glance from that species. A large number of *pennsylvanica* and *barbata* were dissected and showed a remarkable constancy in their respective forms. However, a Florida form of *pennsylvanica* shows a slight, yet immediately noticeable, difference from the typical form of genital structure found in that species. Whether or not this difference in structure is actually of specific, subspecific or varietal value is difficult to state, but in view of the remarkable difference in genital structure found in comparing two known species, *pennsylvanica* and *barbata*, the differences noted in the Florida form appear too slight for the establishment of a new species. Nor does it seem advisable to establish a new subspecies or variety on this structure, which does not differ materially in shape or size from a typical *pennsylvanica* form, and thus possibly add still another synonym to the long list following *pennsylvanica* in the catalogs. However, as all of the previously described forms of *Alobates* have had mention made only of their external structures, and as the species of this genus are notorious for their variable sculpture and form, any definite determination of this Florida form with a previously described species does not seem probable.

The accompanying plate represents comparative form only, no attempt has been made at reproducing these organs on paper to a set scale. Because of the corrosive action of the reagents upon the softer parts, the fleshier structures of the ventral surface of the basal piece must not be allowed to bear too much weight in consequent determination of species. The more set characters are found in the variations of the median and lateral lobes.

*Barbata* is at once separated from *pennsylvanica* by the peculiar acuminate process formed by the lateral lobes. In neither species is the median lobe visible from above, and in *barbata* it is much narrower than in *pennsylvanica*. The suture separating the lateral lobes dorsally is much more prolonged basally in *barbata*

than *pennsylvanica*. It is interesting to note that, even when the specimen of  *barbata* is much larger than a *pennsylvanica*, its genital tube will almost invariably be found smaller in size than in the latter species.

Repeated attempts to procure specimens of Horn's *subnitens* all resulted in failure, but for determination purposes the aberrant third joint of the antennae should easily separate it from the other forms of *Alobates*. It is included in the following table with the hope that it may soon be brought to light, for to the best of my knowledge it has not been found since it was first described.

#### KEY TO U. S. SPECIES OF ALOBATES MOTTS.

1. Antennae with third joint nearly equalling the three following together; prosternum convex between the coxae, elevated in a slight tubercle at tip ..... *subnitens* Horn.  
     Antennae with the third joint approximating in length the two following together; prosternum slightly convex between the coxae but not tuberculate at tip ..... (2)
2. Under surface of mentum tufted with long, yellowish hairs; elytral rows of punctures usually coarser. Male genital tube spine-like at apex (fig. 3) .....  *barbata* Knoch.  
     Under surface of mentum not tufted with yellowish hairs; punctures of elytral rows finer, more minute. Male genital tube truncated at apex, not acuminate (fig. 1) *pennsylvanica* DeG. (for comparison of the Florida form a third statement and alternate has been introduced) . (3)
3. Basal suture of the lateral lobes of the male genital tube not emarginate medially on the dorsal surface; outer apical angles of the lateral lobes rounded; dorsal suture of the lateral lobes shorter; median lobe broader, extending visibly beyond the apical half; sutures of lateral lobes ventrally extending nearly to basal fourth (fig. 1)  
     ..... *pennsylvanica* (typical)  
     Basal suture of the lateral lobes of the male genital tube with very evident median emargination; outer apical angles of the lateral lobes obtuse, angulate; dorsal suture of the lateral lobes longer; median lobe more narrow, visible only in apical half; sutures of lateral lobes ventrally extending only to anterior portion of basal half (fig. 2) ..... Florida—*pennsylvanica* aberration

The Florida form does not differ materially in external aspect from the more deeply punctate forms of *pennsylvanica*. The easily noted difference in genital habitus is so slight in comparison with the vast differences between *pennsylvanica* and  *barbata* that it is published only for interest's sake. Description of the

shell of this form would not suffice to separate it from *pennsylvanica*, and certain recognition can come only from examination of the male genital tube.

EXPLANATION OF FIGURES

(all of male genital tube)

a.—dorsal aspect      b.—ventral aspect

1. *pennsylvanica* DeG.
2. Florida variation of above
3.  *barbata* Knoch.

